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AP: CHAPTER 2 & 3

CHEMICAL CONTEXT OF LIFE & WATER

1. What are the most common elements in the human?

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_____

2. Helium has an atomic number of 2 and atomic mass of 4. Explain.

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_____

3. Define isotope and give some examples.

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4. How are isotopes used in biology?

_____

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_____

5. What happens when electrons change levels?

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_____

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6. What is the significance of valence numbers?

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_____

_____

7. Why do atoms form covalent vs. ionic bonds?

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_____

8. How do non-polar covalent bonds differ from polar covalent bonds?

_____

_____

_____

9. What is a hydrogen bond? How does it form and how is it different from a covalent bond?

_____

_____

_____

10. Sketch a few molecules of water, indicate their polarity, and where H bonds form.

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11. Why is H bonding so important to water's properties?

_____

_____

_____

12. List the "special" properties of water and give an example of why the property may be important to living things.

a. _____

_____

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_____

b. _____

_____

_____

_____

c. _____

_____

_____

_____

d. _____

_____

_____

2005-2006